



AOPS1500

1500W AC/DC



Features

- Small Size
- Built in PFC circuit
- Wide Input voltage range
- 100-240 VAC
- Over voltage protection
- Overcurrent protection
- **5 Yr warranty**



MODEL/CHANNEL		Unit	AOPS 1500-5	AOPS 1500-9	AOPS 1500-12	AOPS 1500-15
OUTPUT	Nominal Voltage	V	5	9	12	15
	Setting Voltage Range	V	4.95~5.05	8.91~9.09	11.88~12.12	14.85~15.15
	Current	A	240	150	125	100
	Rated Power Range	W	1200	1350	1500	1500
	Line Regulations	mV	25	45	60	75
	Load Regulations	mV	100	45	60	75
	Temperature Drift	mV	75	135	180	225
	Ripple& Noise(pk-pk)	mV	150	150	150	150

MODEL/CHANNEL		Unit	AOPS 1500-24	AOPS 1500-28	AOPS 1500-48
OUTPUT	Nominal Voltage	V	24	28	48
	Setting Voltage Range	V	23.76~24.24	27.72~28.28	47.52~48.48
	Current	A	63	54	32
	Rated Power Range	W	1512	1524	1536
	Line Regulations	mV	120	140	240
	Load Regulations	mV	120	140	240
	Temperature Drift	mV	360	420	720
	Ripple& Noise(pk-pk)	mV	150	150	200
	Voltage Adjustment	V	Voltage adjustment trim is +/-15%		
	Start-up, Rise Time typ.	ms	1500 typ., 100 typ., (AC IN 110/220V, lo=100%)		
Hold-up Time typ.	ms	10(AC IN 110V, lo=100%), 15(15 IN 220V, lo=100%)			

INPUT		Unit	~240V (AC90~264V), 50/60Hz (43~63) or DC127~370V			
Current Typ.	110V	A	14	15	16	16
	220V	A	7	7.5	7.8	7.8
Efficiency	110V	%	78	82	83	83
	220V	%	80	85	87	87
Current Typ.	110V	A	16	16	16	16
	220V	A	7.8	7.8	7.8	7.8
Efficiency	110V	%	86	86	87	87
	220V	%	90	90	90	91
Power Factor	110V	-	.98 (lo=100%)			
	220V	-	.95 (lo=100%)			

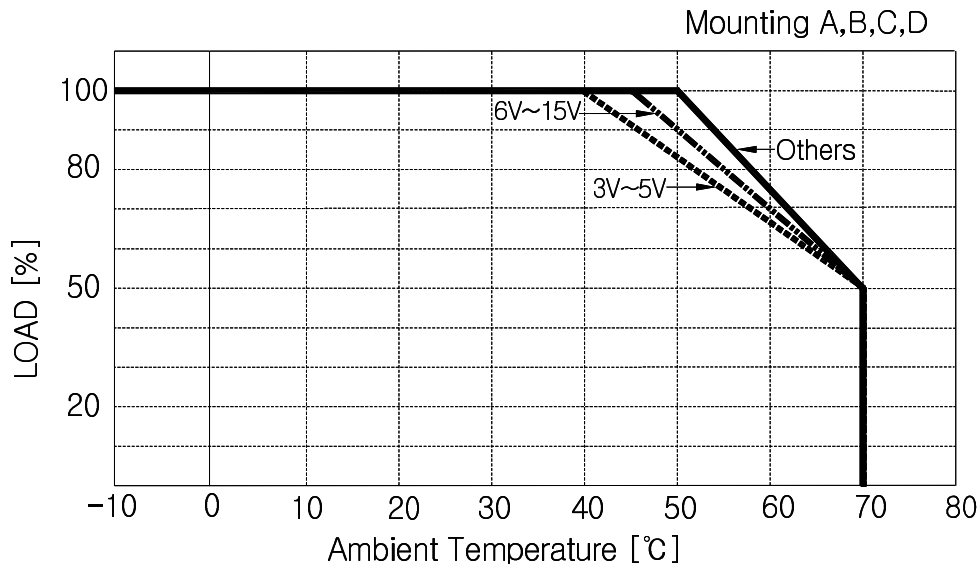




MODEL/CHANNEL		Unit	
Function	Inrush Current Typ. 110V 220V	A	30 (Ta=25°C, Cold Start) 60 (Ta=25°C, Cold Start)
	Leakage Current 110V 1mA Max 220V	mA	0.6 (Typ.) 1(Typ.)
	Over Current Protection	A	Works at 105~135% rating Protection type Constant current limiting unit will shut down after 5 sec. (Re-power on to recover)
	Auxiliary Power (AUX)	-	12V/0.1A (only for remote ON/OFF control)
	Remote Sensing	-	Available
	Remote ON.OFF	-	Available
	Alarm Signal	-	POK (Open collector output)
	Cooling/O.T.P	-	Forced air cooling / Fan
Electrical Isolation	(1) Input	-	AC 3 KV 1min., cut-off: 20mA/DC500V 100MO
	(2) Input - F.G	-	AC 2 KV 1min., cut-off: 20mA / DC 500V 100MO
	(3) Output - F.G	-	AC 0.5 KV 1min., cut-off: 100mA / DC 500V 100MO
Environment	Operating temp. & Humidity	-	-10 ~70°C. 20~90% RH (NON condensing)
	Storage temp. Humidity	-	-20 ~85°C. 20~90% RH (NON condensing)
	Vibration	-	10~55Hz @ 1 G 3minutes PERIOD, 30 minutes along X,Y & Z axis
Dimension	Size(WxLxH)/Weight	mm/g	126.5Lx280Wx82H/3800
Safety	CB, CE, RU	-	EN60950-1
Emission	Conducted Emission	-	Complied with EN55022-A
PFHC	Harmonic Content	-	Complied with IEC61000-3-2-3

Derating Curve

1500W AC/DC



4. Output derating Table

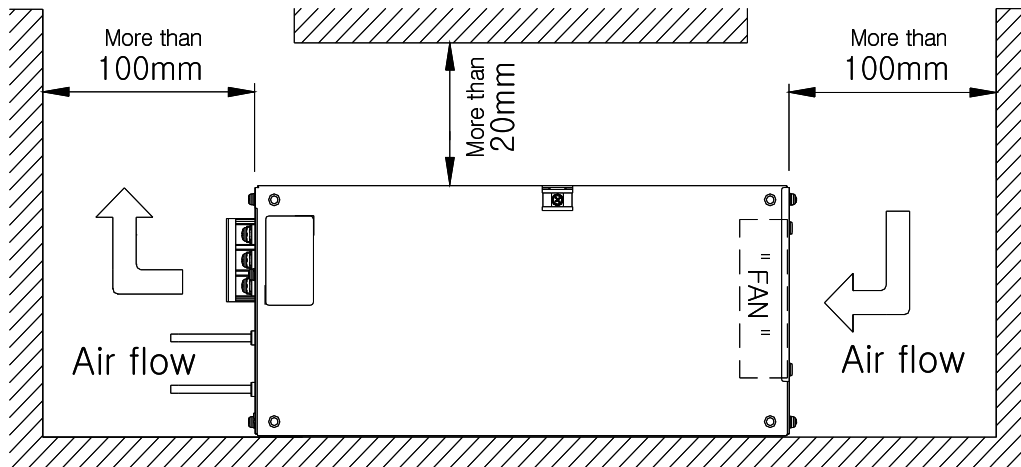
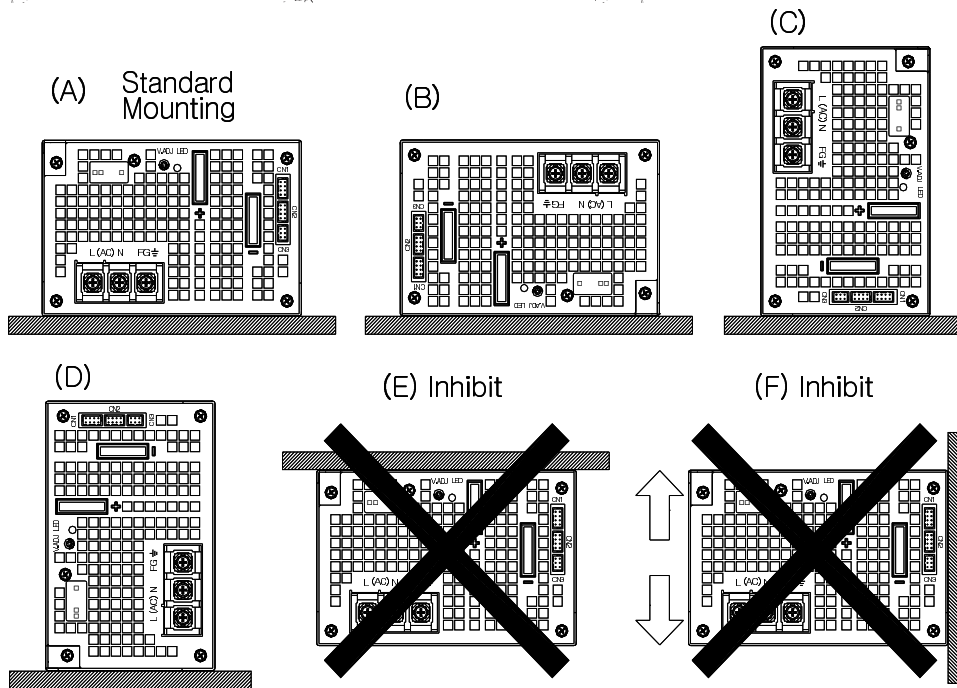
3V~5V Ta(°C)	6V~15V Ta(°C)	Others Ta(°C)	LOAD (%), Mounting			
			A	B	C	D
-10 ~ +40	-10 ~ +45	-10 ~ +50	100	100	100	100
70	70	70	50	50	50	50





Mechanical Drawings

1500W AC/DC





Mounting

1500W AC/DC

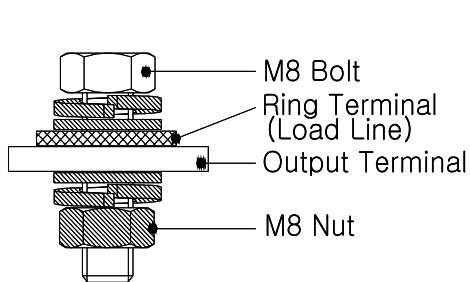
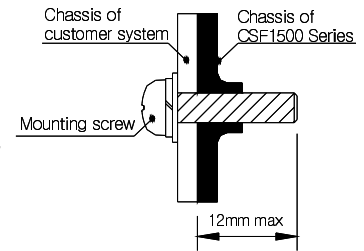
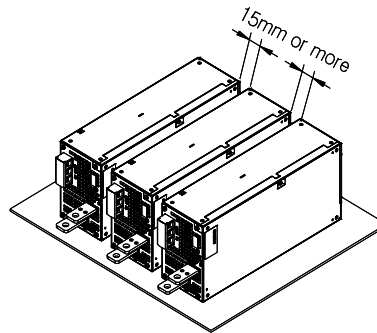


Fig.13 Output terminal & Load line



Mounting Screw

Mounting

1500W AC/DC

CN1, CN2 Connector Pin No. Assignment

Connector No.	Pin No.	Assignment	Function
 CN1, CN2	1	RCG	Remote ON/OFF Ground
	2	RC2	Remote ON/OFF
	3,5,7	-S	- Remote Sensing
	4	TRIM	Adjustment of Output Voltage
	6	LS	Load Sharing
	8	+S	+ Remote Sensing

CN3 Connector Pin No. Assignment

Connector No.	Pin No.	Assignment	Function
 CN3	1	POK GND	Power OK Signal Ground
	2	POK	Power OK Signal
	3	RCG	Remote ON/OFF Ground
	4	AUXG	Auxiliary Output Ground
	5	RC1	Remote ON/OFF
	6	AUX	Auxiliary Output (12V/0.1A)

② +V : + Output Terminal (M8 Bolts, M4 Screw x 2EA)

③ -V : - Output Terminal (M8 Bolts, M4 Screw x 2EA)

④ CN1
⑤ CN2
⑥ CN3

} Control Connector

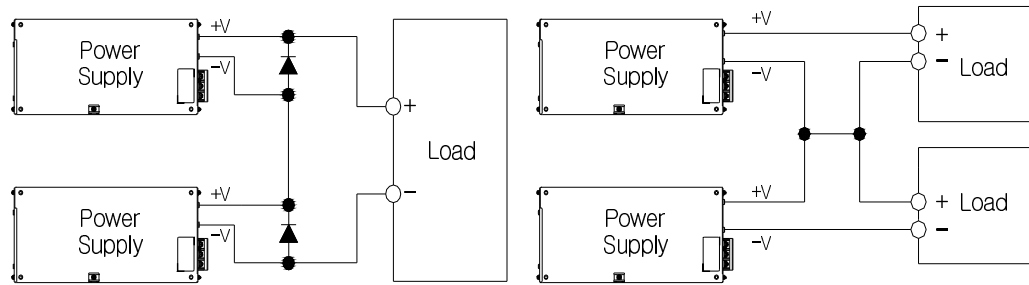
Connector	Housing	Terminal
CN1, CN2	Molex 511100850	Molex 503948051
CN3	Molex 511100650	Molex 503948051





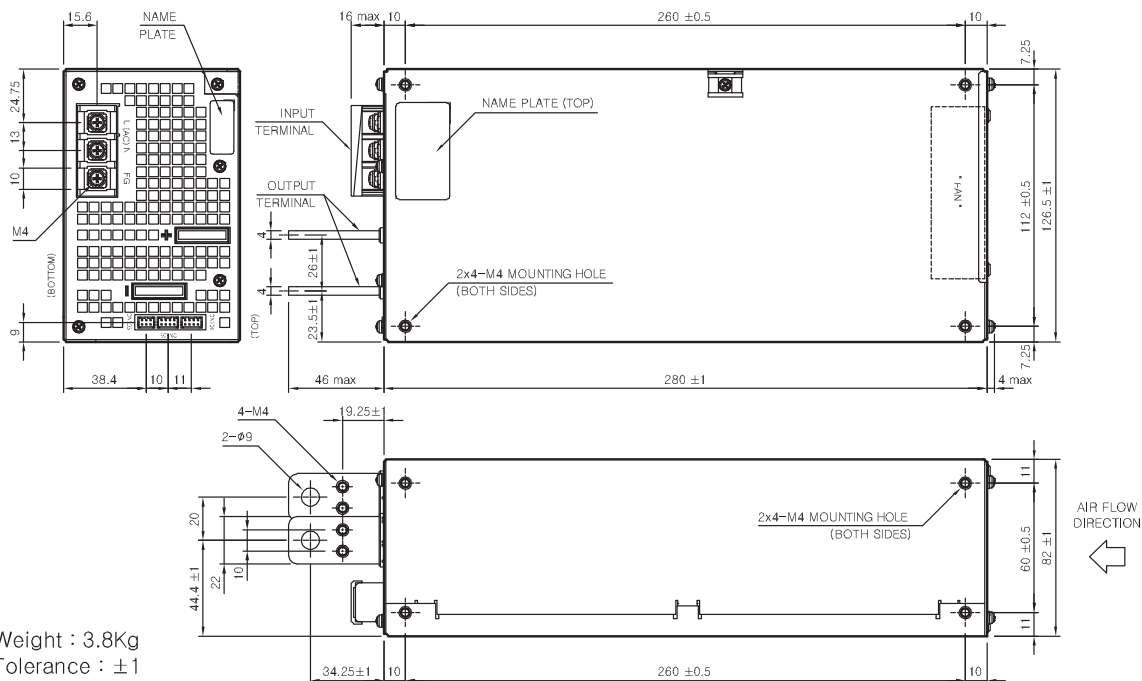
Derating Curve

1500W AC/DC



Mechanical Drawings

1500W AC/DC



- * Weight : 3.8Kg
- * Tolerance : ± 1
- * Dimensions in mm





Remote ON/OFF

1500W AC/DC

Figures 3-1 through 3-3 show various configurations to set up remote ON/OFF for AOP1500

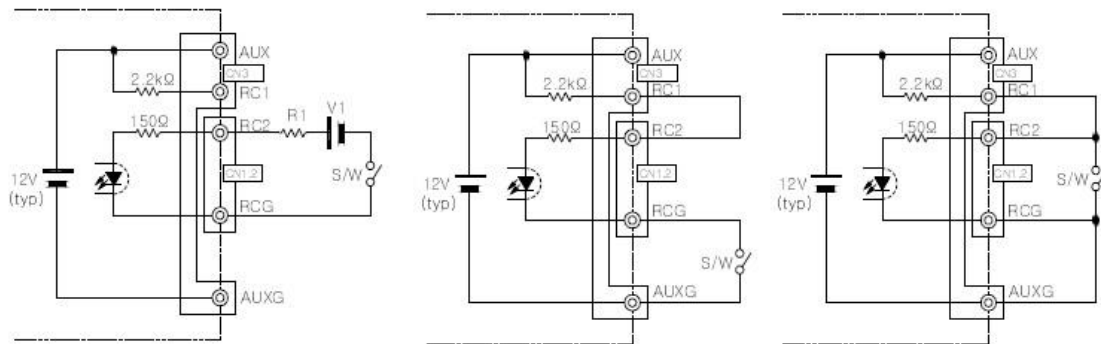
Fig 3-1 External Power Source

Fig 3-2 Internal power

Fig 3-3 Internal power

SW closed=on

SW closed=off



*Other than Switch, a Relay, Transistor, TTL, and others can be used (Close L : 0-0.8V, Open H : 2.4-24V)

Figure 3-1: Tie RC2 of CN1 (purple) or CN2 (blue) to R1 in series with V1 to one end of the switch. Tie RCG of CN1 (green) or CN2 (orange) to the other end of the SW.

Figure 3-2: Tie RC1 of CN3 (Black) to RC2 of CN1 (purple) or CN2 (blue). Tie RCG of CN3 (yellow) to one end of the SW and tie AUXG of CN3 (red) to the other end of SW.

Figure 3-3: Tie RC1 of CN3 (Black) to RC2 of CN1 (purple) or CN2 (blue). Attach one end of SW to it. Tie RCG of CN3 (yellow) and AUXG of CN3 (red). Attach other end of SW to it.

Switch Logic	Fig. 3-1	Fig. 3-2	Fig. 3-3	Output condition	Fan Motor
Switch Open	Switch Open	Switch Open	Switch Close	ON	Rotate
Switch Close	Switch Close	Switch Close	Switch Open	OFF	Stop

Figure 3-1's resistor recommendation

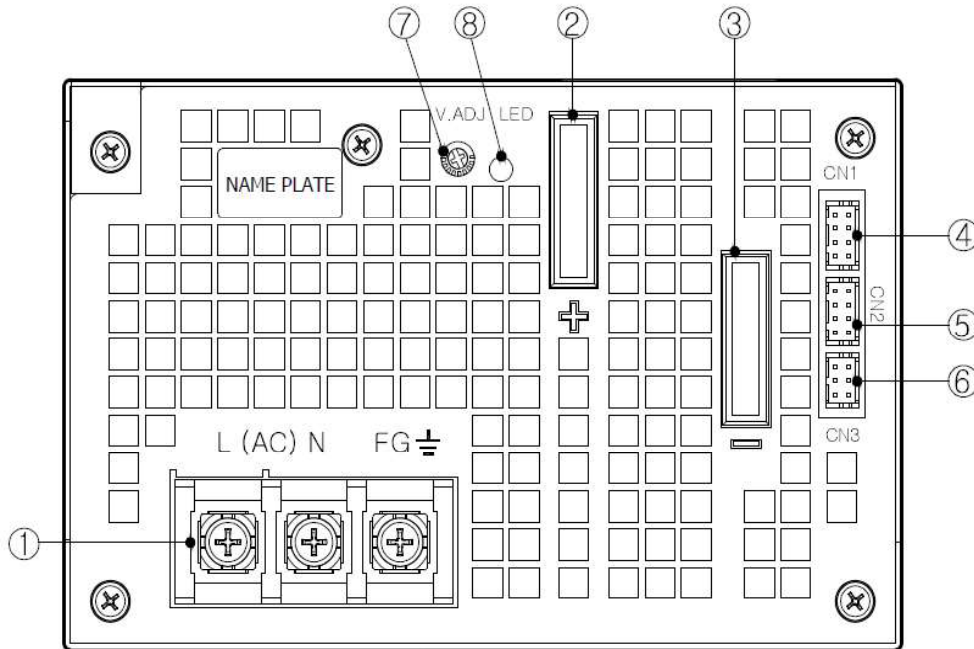
V1	5V	12V	24V
R1(0.5W)	620Ω	1.5kΩ	4.7kΩ





AOPS1500 INTERFACE

1500W AC/DC



① AC Input Terminal Pin No. Assignment (M4 Screw)

Pin No.	Assignment	Function
1	FG \perp	Frame Ground : Case 접지
2	N	Neutral Line : AC Input terminal
3	L	Live Line : AC Input terminal (Fuse in line)

② +V : + Output Terminal (M8 Bolts, M4 Screw x 2EA)

③ -V : - Output Terminal (M8 Bolts, M4 Screw x 2EA)

④ CN1
⑤ CN2 } Control Connector






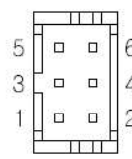
AOPS1500 INTERFACE

1500W AC/DC

※ CN1, CN2 Connector Pin No. Assignment

Connector No.	Pin No.	Assignment	Function
 CN1, CN2	1	RCG	Remote ON/OFF Ground
	2	RC2	Remote ON/OFF
	3,5,7	-S	- Remote Sensing
	4	TRIM	Adjustment of Output Voltage
	6	LS	Load Sharing
	8	+S	+ Remote Sensing

※ CN3 Connector Pin No. Assignment

Connector No.	Pin No.	Assignment	Function
 CN3	1	POK GND	Power OK Signal Ground
	2	POK	Power OK Signal
	3	RCG	Remote ON/OFF Ground
	4	AUXG	Auxiliary Output Ground
	5	RC1	Remote ON/OFF
	6	AUX	Auxiliary Output (12V/0.1A)

MATING CONNECTORS FOR CN1, CN2

CN1/CN2 Connector	Mate-Housing	Mate Contact	Manufacturer
YDAW200-8P	YDH200-08	YST200	YEON HO
	0511100856	0503948051	MOLEX

CN1, CN2 USE 2mm pitch square headers, list of suggested mates provided are not exhaustive.

MATING CONNECTORS FOR CN 3

CN3 Connector	Mate-Housing	Mate Contact	Manufacturer
YDAW200-6P	YDH200-06	YST200	YEON HO
	0511100650	0503948051	MOLEX

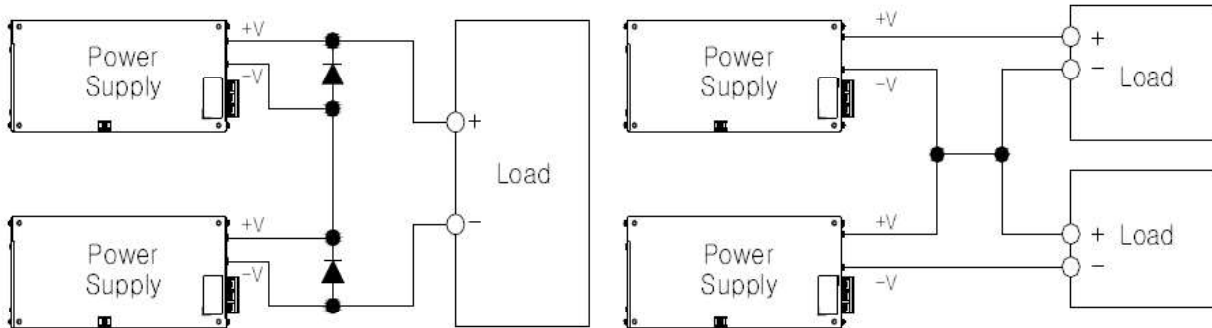




SERIES OPERATION

1500W AC/DC

Figures 3-1 through 3-3 show various configurations to set up remote ON/OFF for AOP1500



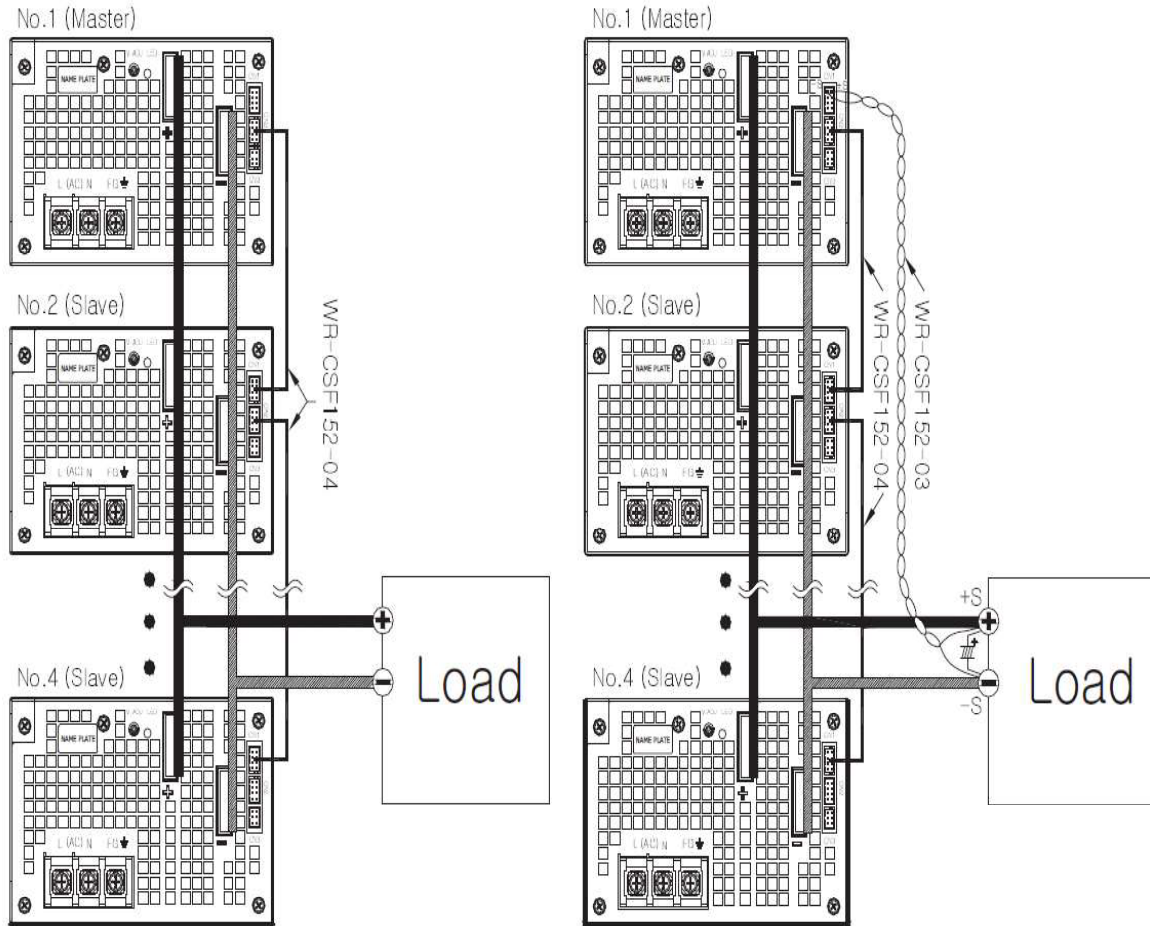
Wiring for series operation is shown above. If two supplies are supporting one load, a protection diode is recommended to protect the unit from damage.





PARALLEL OPERATION

1500W AC/DC



For Units in parallel, a "Master" supply will dictate the output voltage for the additional or "slave" units. To wire units for parallel operation, tie +Vout of the master and slave units together and terminate at the load. Repeat with the Vout Return (-) terminals. To ensure current balance, connect pin 6,7, and 8 of CN2 of the Master unit to CN1 of the slave unit per the Fig. 11 Diagram. Continue to daisy chain with additional units. If user wishes to use the remote sense compensation, follow Fig 10 A diagram below, and terminate Pin 7 (-Sense) and Pin 8 (+Sense) at the point of load. Sense wires are to be in a twisted pair to reduce electrical noise interference.

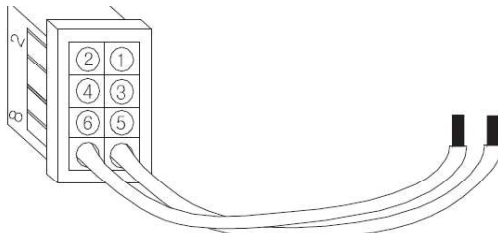
It is recommended us a protection diode between -S and +S to protect remote sense circuitry.



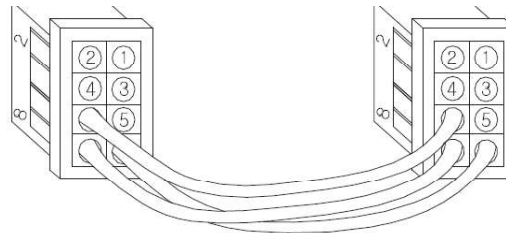


PARALLEL OPERATION

1500W AC/DC



※ Remote sensing Wire
o Wire Housing Terminal은 2

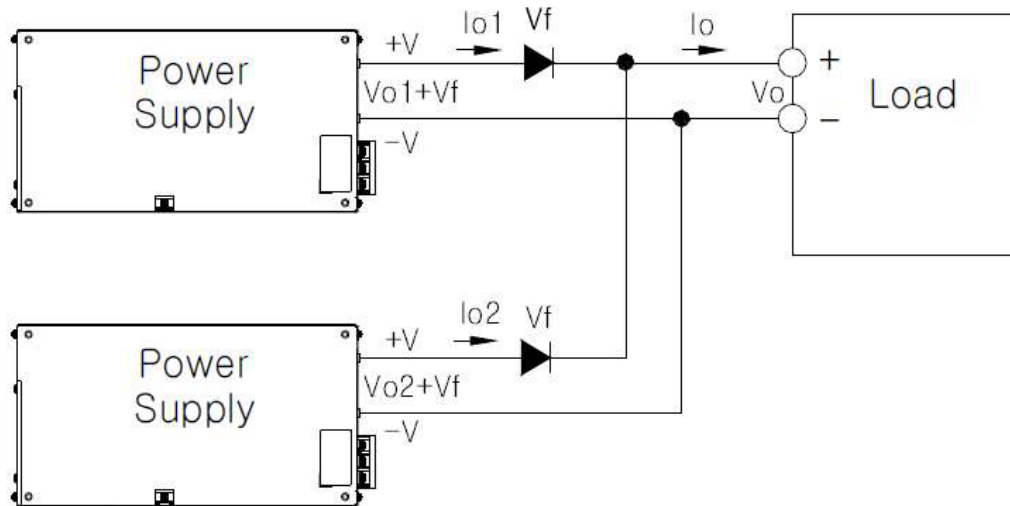


※ Current balance

REMOTE SENSE WIRING (TOP LEFT)

CURRENT BALANCE WIRING (TOP RIGHT)

N + 1 REDUNDANCY



The AOPS1500 can be wired for N+1 redundancy, wiring diagram shown above. It is recommended that blocking diodes are used to prevent damage to units.

